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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/774,250

02/06/2004

Henry Allen Hill

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8641

23483

7590

01/24/2006

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BOSTON, MA 02109

EXAMINER

ROJAS, OMAR R

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/774,250

Applicant(s)

HILL, HENRY ALLEN

Examiner

Omar Rojas

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-35 is/are allowed.
- 6) ☒ Claim(s) 1,2,5,10-14,23,26 and 27 is/are rejected.
- 7) ☒ Claim(s) 3,4,6-9,15-22,24 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Detailed Action.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 19, 2005 has been entered.

Response to Amendment

2. With regards to the amendment filed on August 19, 2005, all the requested changes to the claims have been entered. Claims 1-35 are pending.

Response to Arguments

3. Applicant's arguments with respect to claims 1, 2, 5, 11-14, 23, 26, and 27 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. **Claims 1, 2, 5, 10-14, 23, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by USP 6,738,551 B2 to Noda et al. ("Noda").**

Regarding claims 1, 2, and 27, Noda discloses a multiple source array (e.g., as seen in his Figures 1-20) comprising: a guided-wave structure in which one or more guided-wave modes are excited during operation, said guided-wave structure including a planar dielectric core (11, 53,

Art Unit: 2874

and/or 63), a first air cladding layer (e.g., see col. 7, lines 11-15), and a second air cladding layer covering a second side of the dielectric core that is opposite from the first side; and an array of dielectric-filled, guided-wave cavities extending transversely from the dielectric core (11, 53, and/or 63) into the first air cladding and forming an array of apertures (14, 16, 21, and/or 22) through which optical energy that is introduced into the core exits from the core, each cavity of the array of cavities having one or more transmission modes that during operation couple to the one or more guided-wave modes of the guided-wave structure thereby causing said optical energy to exit from the core through each aperture of the array of apertures (14, 16, 21, and/or 22). See Noda at col. 5, lines 17-57.

Regarding claim 5, see Noda at column 5, lines 30-34 and column 7, lines 11-15.

Regarding claim 10, see col. 9, lines 15-39.

Regarding claim 11, see Noda at column 5, lines 35-42.

Regarding claim 12, see Noda at col. 9, lines 3-32.

Regarding claim 13, a light source is inherently present in Noda to provide the light into the dielectric core.

Regarding claim 14, see the previous remarks and col. 5, lines 12-16 of Noda.

Art Unit: 2874

Regarding claim 23, see Noda at col. 5, lines 22-30. At least one of the photonic crystal materials disclosed by Noda transmits UV radiation.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noda as applied to claim 2.**

Regarding claim 26, Noda differs from the claim in that Noda does not expressly teach using a dielectric core material selected from the group recited by claim 26.

However, Noda suggests using different photonic crystal materials in column 5, lines 22-29. The Examiner takes Official Notice that fused silica, for example, is a well-known photonic crystal material used in making optical waveguides. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use a cheap, conventional material such as fused silica for the dielectric core of Noda. Therefore, claim 26 is unpatentable over Noda.

Allowable Subject Matter

8. Claims 28-35 are allowed.

Art Unit: 2874

9. Claims 3, 4, 6-9, 15-22, 24-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 3, 4, and 6-9, each of the particular claims recites a feature considered novel and unobvious over the prior art of record. With respect to claims 15-22, the primary reason for allowance of the claims is the inclusion of a prism coupler located against the first side of the dielectric core for coupling an optical input beam into the core. With respect to claims 24-25, the primary reason for allowance of the claims is the inclusion of a compensating layer of low index of refraction dielectric positioned so that light emanating from the array of cavities passes through the compensating layer.

With respect to claims 28-35, the primary reason for allowance of the claims is the inclusion of a multiple source array, comprising the claimed structure, and further providing an array of optical beams as input to an optical measurement instrument during operation as recited by independent claim 28.

Conclusion

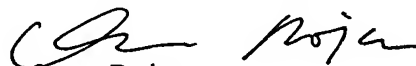
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (571) 272-2357. The examiner can normally be reached on Monday-Friday (12:00PM-8:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick, can be reached on (571) 272-2344. The official facsimile number

Art Unit: 2874

for regular and After Final communications is (571) 273-8300. The examiner's RightFAX number is (571) 273-2357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Omar Rojas
Patent Examiner
Art Unit 2874

or
January 20, 2006



AKM ENAYET ULLAH
PRIMARY EXAMINER